Digital Literacy towards Women Empowerment in India: Opportunities and Barriers

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Abstract

Advanced technology has had both positive and harmful effects on civilization. We commonly refer to this as "digital literacy," and women's involvement is crucial in disseminating positive information to the wider population. Digital literacy is crucial for empowering women in today's technologically advanced culture since it opens doors to employment, education, social inclusion, and financial independence. This study explains how digital literacy empowers women by presenting evidence from earlier research. Particularly in developing nations like India, where women's access to the internet is restricted and their capacity to use technology is impeded by financial limitations, social conventions, and a lack of digital training, there is a significant digital gender gap. The report highlights that more chances for women's empowerment, more funding for digital education, more internet infrastructure, and more robust legislative protections are all necessary for sustainable digital literacy. In order to create a digitally inclusive society that empowers women to prosper in the global digital economy, the study encompasses the business and governmental sectors as well as community organizations. The study discussed the concepts of women's empowerment and digital literacy. The correlation between women's empowerment and digital literacy is very deep, with important observations about opportunities and barriers emerging. The role of digital literacy in empowering women in India is particularly significant. This topic is very relevant at the present time. This study is significant as an important document in further progress and further research on women's empowerment.

Key Words: Digital Literacy, Digital Divide, Empowerment, Women Empowerment.

Introduction

In contemporary India and the world, digital literacy has made a deep impact on human life. Digital literacy is essential in all aspects of education, health, and economy, social communication in administrative activities, science, and age. Women's empowerment in India is an important goal in social, economic, administrative, educational, political, etc. In the current discussion, digital literacy is one of the most powerful tools for women's empowerment. Women are essential components of society, and the next generation is impacted by their education. It is acknowledged that women's education is the most essential

component for improving the lot of the average person. One of the most powerful components of women's empowerment is digital literacy in particular. Digital literacy is the ability to access, understand, evaluate, and generate information using digital technologies, including computers, smartphones, and the internet. It encompasses the essential technical skills, critical thinking, and online safety awareness needed to interact with modern culture (Kaur et al. 2025). The ability to communicate, obtain information, and fully engage in the digital economy and society is known as digital literacy (UNESCO, 2021). The process of providing women with the abilities, information, and access to digital technology to improve their social, professional, and personal life is known as "digital empowerment" (Sowmya, 2025).The difference between groups or forces that can and cannot access and use digital media is known as the "digital divide" (Hilbert, 2011). The process of giving someone the freedom to think, act, and manage their own work is known as empowerment. It is the method by which a person can take charge of their life's circumstances and destiny (Kala and Govindaraju, 2024). In order to enable women to make significant contributions to their communities and economies, it is imperative that they have equitable access to resources, opportunities, and education (UN Women, 2022). Therefore, the topic titled 'Digital Literacy towards Women Empowerment in India: Opportunities and Barriers' is very relevant in this background. How digital literacy in India is linked to women's empowerment and potential opportunities and barriers analyzed.

Review of the related literature

Kaur and et al. (2025) conducted a study on "The Impact of Digital Literacy on Women's Empowerment". The purpose of the study was the barriers preventing women from gaining digital literacy and solutions to overcome digital literacy challenges in India. The study was qualitative and analyzed using the predictive analysis technique. The study suggests that emphasizing sustainable digital literacy growth requires policy-driven solutions, greater investment in digital education, enhanced internet infrastructure, and stronger legal protections. Although this study highlights the important link between digital literacy and women's empowerment, there are limitations in determining the external digital access factor.

Sowmya & et al. (2025) conducted a study on "Digital Literacy and Gender Equality: A Mechanism for Facilitating Women's Empowerment in the Twenty-First Century". The purpose of the study was to know the importance of digital literacy for women, to study some digital literacy initiatives by the government to empower women in India, and to identify barriers and challenges faced by the women to acquire digital literacy. The study was a descriptive, qualitative, and conceptual approach and obtained from secondary sources, such as credible websites, books, and journal articles. The pertinent data used in this essay examines the significance of providing women with fundamental digital skills. It draws attention to how few digital platforms are effective at closing the gender gap and the necessity of laws that support inclusivity and provide safe online environments for women.

 Sudha & Muthukumaravel (2024) conducted a study on "A Study on Digital Literacy and Education Empowering Women Entrepreneurs." The purpose of the study was to examine the impact of digital literacy on the success and growth of women-led businesses and to understand the role of digital technologies in facilitating networking, marketing, and access to

markets for women entrepreneurs. The study suggests that digital literacy serves as a catalyst for women entrepreneurs, empowering them to overcome barriers, seize opportunities, and thrive in the dynamic landscape of entrepreneurship and The study will explore best practices and successful initiatives in digital literacy and education for women entrepreneurs.

Darji (2025) conducted a study on "Women and Digital Empowerment in India—The Role of Technology in Advancing Gender Equality Author." The purpose of the study was to explore the role of digital technology in empowering women in India and to identify the barriers and challenges women face in accessing and utilizing digital technologies. This study was a descriptive study, and the data has been collected through secondary sources from various research papers, theses, circulars, journals, and blogs. The findings of the study demonstrate that technology has had a positive impact on women's empowerment in India. The study suggested that addressing these challenges will ensure that technology can serve as a powerful tool for advancing gender equality in India. The limitation of the study was due to time constraints; data is collected only through secondary sources.

 Subathra, Yadav & Minz (2023) conducted a study on "Impact of Digital Literacy on Women Empowerment in Higher Education: A Case Study Based Approach." The purpose of the study was to study the role of initiatives taken by the Central and State Governments and public-private partnerships in empowering women and to determine the moderating role of digital literacy in empowering women. The study included 54 girl students in Delhi. The study was a qualitative case study-based approach. The data was collected with the help of in-depth interviews, and unstructured interviews were conducted to collect data and record observations from the sample. The findings of the study indicate that digital literacy has served as a solution for the same. Evidence proves that digital learning plays a mediating role in the empowerment of women in higher education.

Objectives

i.   To understand the women empowerment & digital literacy in India

ii.   To explore the factors influencing to empowering women in India.

iii. To analysis the relationship between digital literacy & women empowerment in India.

iv.   To identify the barriers & opportunities of digital literacy towards empowering women in India.

Research Methodology

The data for this descriptive study was gathered from secondary sources, including research papers, theses and journals.

Limitations of the Study

Data is only gathered from secondary sources due to time constraints.

Concept of empowerment & women empowerment in India

The term "empowerment" originated It's important to notice that the majority of dictionaries

only provide definitions of the verb "empower" from before the 20th century, which are "to empower" and "to give power to." The word, which includes connotations like "authorize," "delegate," and "enable," was originally employed in the 17th century. As a result, the concept of empowerment is complex. From the low-powered group's point of view, empowerment refers to initiatives to increase their power base. The topic of "women empowerment" is currently a worldwide concern. Since the United Nations Organization's founding, researchers from all over the world have been interested in women's development, and many nations have included the idea on their political agendas. Currently, "empowerment" has taken the role of the former phrase "development." Additionally, India proclaimed 2001 to be "Women's Empowerment Year."

Giving women the information, confidence, and opportunity they need to manage their own lives, make independent decisions, and actively engage in society is the process of empowering them. Included are social, political, academic, and financial factors (Kaur et al., 2025). The process of giving women more control over their lives and the ability to make their own decisions is known as women's empowerment. This can involve giving women the freedom to fully engage in the political and economic spheres as well as to make choices regarding their own health and well-being (NariSamata, 2023).

Definitions

According to SDG- 5 (2015) Ending discrimination, eradicating violence, respecting unpaid care, guaranteeing universal access to reproductive health, and assuring women's full involvement in public, political, and economic life are all components of gender equality.

According to NMEW (2011-12) "The goal of women's empowerment is to strengthen the processes that support women's holistic development, gender equality, and gender justice through the intersectoral convergence of programs that affect women, the creation of synergy among different stakeholders, and the establishment of an environment that is supportive of social change."

According to UN Women (2022) "Empowering women means ensuring they have equal access to resources, education, and opportunities, allowing them to make meaningful contributions to their communities and economies."

Factors influencing to Women Empowerment

Education: Women's decision-making skills, rights consciousness, and self-assurance are all improved by education. In the home, in society, and at work, educated women are able to voice their opinions with conviction (Tabassum et al. 2019).

Financial Activity and Economic Progress: The main forces behind women's empowerment include employment, self-employment, entrepreneurship prospects, and credit availability. Strengthening income control increases the family's negotiating power (Sinha & Ambastha, 2023; Adeel et al., 2013).

Power to make decisions: Women's involvement in choices pertaining to health, finances, schooling for children, liberty of movement, and voting is a sign of their empowerment.

Learning and media exposure have a positive relationship with this capacity (Rahman et al. 2010).

Social and cultural norms: Women's liberty and possibilities are restricted by gender-based stereotypes, societal barriers, patriarchal structures, and conventional roles, which impede their empowerment (Sinha and Ambastha, 2023).

Access to possibilities and sources: Women's durability, social standing, and self-reliance are enhanced by land ownership, economic assets, digital training, and skill development (Thapa, 2024; Shahrin and Abdullah, 2022).

Media and information exposure: Having access to media broadens perspectives, boosts engagement, and educates women about their rights, opportunities, and societal roles (Rahman et al. 2010).

Housing and Construction (Urban-Rural): Due to the greater options for social involvement, work, health care, education, and banking, urban women are comparatively more empowered (Tabassum et al. 2019).

Family and Social Support: Women's education, professional involvement, and leadership are strengthened by supportive families, connections with others, and social networks (Thapa, 2024).

Government Policies: To enable individuals, particularly women and rural populations, to use digital technologies efficiently, government policies for digital literacy concentrate on offering infrastructure, training, and technological access. The gender digital divide is lessened, and participation in online education, services, and e-commerce is increased through programs including digital skills training and inclusion campaigns. These laws improve women's socioeconomic prospects and give them the confidence to interact with the digital world.

Digitization and Digital Literacy: Digital literacy is the capacity to locate, assess, produce, and share information using digital devices, the internet, and online resources. It increases women's freedom and knowledge by providing them with access to banking, education, e-governance, and online income outlets. By boosting self-esteem and facilitating active engagement in society, digital literacy helps lessen the gender digital divide.

Concept of Digital Literacy

The term **"digital literacy"** is a compound phrase whose meaning can be understood by tracing the etymology of its two core components, "digital" and "literacy."

"Digitus," which means "finger" or "toe" in Latin, is where the word "digital" originates. This suggests that counting is done using the fingers. The term "digital" now refers to electrical equipment that creates, stores, and processes data in two states (positive and non-positive), usually represented by binary integers (0 and 1).

Literacy: The Latin word littera, which means "letter," is where the word "literacy" originates. The basic capacity to read and write print materials was once referred to as

literacy. The "ability to 'read and write' using electronic or computer-based technologies" is the etymological meaning of "digital literacy" when combined.

In order to navigate, participate, and thrive in a digital world for work, education, and daily life, one must possess both technical skills (using devices/software) and cognitive skills (critical thinking, understanding online impact). The ability to locate, assess, produce, and share information using digital technology is known as digital literacy. It encompasses more than just fundamental computer usage; it also includes ethics, safety, and the efficient use of social media, apps, and the internet to take significant action. The ability of people and communities to comprehend and apply digital technologies for purposeful activities in everyday situations is known as "digital literacy" (Ministry of Labour & Employment, Government of India).The ability to locate, assess, and convey knowledge using typing or digital media platforms is known as digital literacy (Wikipedia, 2026). Six skills are examined in digital literacy. Digital literacy, data literacy, multidisciplinary literacy, multimedia literacy, emotional and socioeconomic literacy, and real-time thinking.

Definition of Digital Literacy

"Digital literacy is the capacity to comprehend and use data across different forms from a wide range of sources when it is presented via computers," according to Paul Gilster (1997).

According to UNESCO (2018), the capacity to safely and appropriately access, manage, comprehend, integrate, communicate, evaluate, and generate information through digital technology for work, education, and social engagement is known as digital literacy.

"Digital literacy is the competent and analytical use of Information Society Technology (IST) for employment, enjoyment, and communication," according to the European Commission (2016).

"Digital literacy is an integration of technical, intellectual, and psychological abilities needed to live, learn, and work in a digital society," according to Eshet-Alkalai (2004).

Relationship between digital literacy and women empowerment in India

In India, digital literacy is essential for women's empowerment since it opens up economic options (e-commerce, online jobs), improves access to medical care and schools, promotes social interaction, and makes economic independence possible.

Financial Empowerment: Women with digital skills can access internet shopping, start online companies (such as selling bangles on social media), use mobile banking, and obtain better jobs, all of which lead to financial independence.

Training & Data Access: Digital literacy improves quality of life and fights societal inequality by giving people access to education, skills training, and data about their rights.

Interpersonal & Association Building: By fostering a sense of belonging, community, and leadership, online venues enable women to speak up and dispel prejudices.

Healthcare & Services: Rural women in particular can more easily access essential services like telemedicine and government websites thanks to digital tools.

Opportunities

Through increasing earning capacity through online jobs, e-commerce, and financial management; strengthening social connections and advocacy; expanding access to government services and education; and boosting confidence, digital literacy presents enormous prospects for women's empowerment in India.

Economic Empowerment: With the help of digital skills, women may launch online enterprises, reach new markets, sell goods internationally through social media and e-commerce, and work flexibly while juggling household duties. Gaining formal work in tech-enabled industries through training in digital skills can improve income and financial freedom. launches internet companies and sells goods on e-commerce sites like Flipkart and Amazon.Women have more control over their finances, savings, and loans thanks to mobile banking, e-wallets, and digital payments; programs like Jan Dhan Yojana and UPI payments promote self-reliance.

Political and Social Empowerment: Women may interact, create communities, dispel prejudices, and promote social change and gender equality using technology-based platforms. Women can participate in government programs such as PM Ujjwal Yojana, Beti Bachao Beti Padhao, Kannyasree, and the online Skill India program. Digital literacy helps people navigate daily life and access rights by giving them access to essential information on health, education, and government programs (like PMGDISHA). By eliminating the need for travel, online education and employment solve mobility and safety issues that frequently prevent women from participating.

Learning and Developing Skills: By providing access to high-quality education, job counseling, and technical education through platforms like Coursera, e-learning initiatives, DIKSHA, and SWAYAM, women are able to acquire new skills. Digital literacy promotes personal development by boosting self-assurance, critical thinking, and decision-making skills.

Telemedicine and public health: Women who are digitally literate have easier access to wellness initiatives, telemedicine consultations, and online health information. This guarantees prompt medical advice, greater awareness of reproductive health, and enhanced general well-being, particularly in remote areas with restricted access to healthcare.

Mentoring and Networking: Women can connect with communities of support, networking opportunities, and mentors through online platforms. They may seek advice, exchange experiences, and work together on projects linked to digital literacy, which boosts their self-esteem and advances their careers.

NGOs and the government: The flagship initiative, Digital India, was introduced in 2015 with the goal of transforming India into a knowledge economy and society enabled by technology. Important Features: Training and Certification Program for Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) and Center for Women's Empowerment (H. E. In order to provide women with access to healthcare, finance, and entrepreneurship, it promotes digital literacy locally. NGOs also offer mobile literacy, basic computer training, and secure learning

environments that facilitate access to technology.

Barriers

Digital gender disparities in India: According to Saha et al. (2024), the gender split is the gap between men and women who have access to technology. According to the Organization for Economic Co-operation and Development (OECD, 2018), gender disparities in access to and utilization of digital technology, digital skills, and digital money constitute the "digital gender divide." The extent of the gender digital divide in India is highlighted by a number of factors, including access to digital and mobile devices, affordable connectivity, relevant and need-based content, gender-inclusive attitudes in the home and environment, and digital skills, capabilities, and knowledge support (C3India, 2017).

Fig: Percentage of individuals who have never used the internet- State-wise gender and rural/urban divide
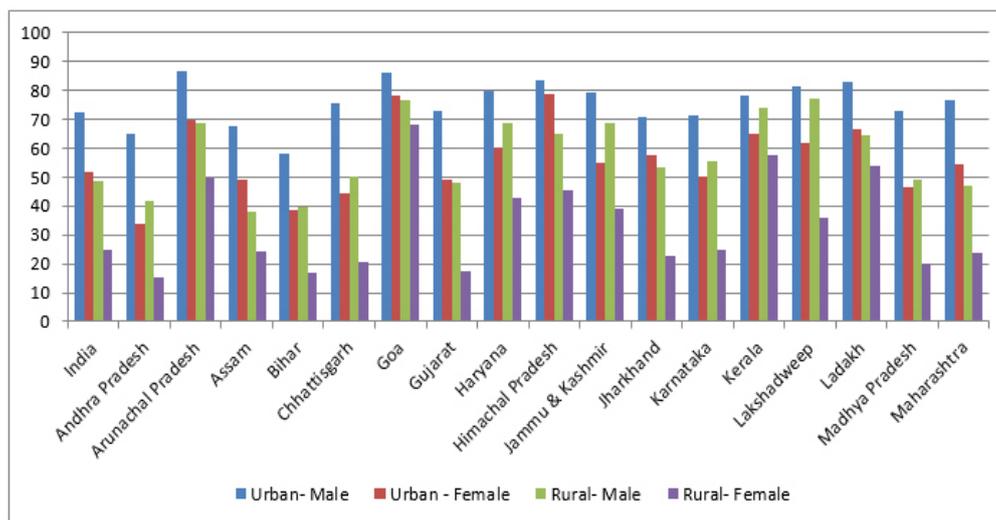
Source of data: NFHS 2019-21, https://www.nfhsiips.in/

Limited Resources and Online Access: One of the biggest barriers to women's development of digital literacy is their restricted access to resources and online services. Many women, especially in rural and low-income areas, do not own smartphones, computers, or tablets due to high costs and financial constraints. UN Women (2022) reports that women are less likely than men to have a cell phone or internet connection, especially in developing countries.

Financial Restraints: Another major barrier for women is the cost of internet access and digital education. For many women, the cost of basic mobile data plans, digital literacy training programs and internet access is unaffordable. According to research by GSMA (2021), one of the key causes of women's continued digital exclusion in low-income areas is the high cost of mobile internet.

Traditional and Social Norms: Due to gender norms and cultural perspectives, many civilizations forbid women from using technology. Because it is believed that men are more suited for digital skills, women in several fields have fewer opportunities to study and use technology. When it comes to using cell phones, going to digital literacy classes, or utilizing

the internet, women in traditional nations frequently encounter limitations from their families and communities, according to ITU (2021).

Absence of Digital Literacy Development Courses: Despite having access to technology, women are underrepresented in computer literacy programs. Many of the training facilities currently in use are inaccessible to women who are in charge of taking care of the home because of their rural locations. Shows that the majority of digital skills programs do not address the special needs of women, such as providing flexible schedules or learning resources in regional languages (UNESCO, 2022).

Fear of Cyber security Risks and Digital Threats: Many women are afraid to use digital networks due to the risks of cyber bullying, online abuse, and digital crime. They are more susceptible to online fraud and exploitation because of their ignorance of cyber security and privacy protection (WHO, 2021).

Linguistic and literacy difficulties: Many women, particularly those living in rural and impoverished areas, encounter linguistic difficulties that hinder their ability to acquire digital skills. Women who speak local or indigenous languages find it challenging to engage in the majority of digital education programs and online content because they are offered in dominant languages like English. UNESCO (2022) states that women with low literacy levels find it difficult to use digital tools, which further limits their ability to take advantage of technology.

Time Restrictions: Many digital literacy programs have strict timetables or demand large time schedules, which can be challenging for women who are already overburdened by other activities.

Absence of Digital Policies That Consider Gender: Initiatives for digital inclusion are hampered by the absence of gender-sensitive digital policies, which frequently neglect to address the unique obstacles that women encounter. To guarantee that women can fully take advantage of digital prospects, regulations that prioritize their access to technology are necessary, particularly in rural areas.

Significance of the study

Digital signature has a special significance in women's empowerment. With digital literacy, women can be fully empowered and become socially, economically, mentally, and functionally independent. At present, progress in the promotion and dissemination of digital literacy for women's empowerment in different parts of India has been hampered. The study discusses this disruptive progress and draws attention to the need for digital literacy. Exploring women's disabilities offers projects, training, and long-term and tailored programs. From the ideas discussed in the study to the opinions of the analysts, the benevolent viewpoint is an important guide for policymakers in the development of the program. This study will be of particular significance in the context of reducing the gender digital bias in the digital ecosystem in developing countries like India. The study is particularly important in strengthening the rural digital literacy gap and raising overall awareness of public and private opportunities in rural, urban, and micro-economies. This study will be significant in the

collection and observation of data in the in-depth analysis of subsequent academics or researchers in their own studies.

Conclusion

Digital literacy is a key component of women's empowerment. To take India one step ahead in the world of technology and industrialization, special attention should be paid to digital literacy to empower women. The right education will pave the way for women's digital literacy in workplace leadership, equality, freedom, etc. Therefore, digital education, training, internet access, social support, etc. are powerful tools to increase women's empowerment.

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